REMARKS

Applicants respectfully request reconsideration of this application, and reconsideration of the Office Action dated October 18, 2005.

Upon entry of this Amendment, claims 9-30, 38-59 and 67-69 will remain pending in this application. Claims 9-15, 38-43, and 67-69 are active. Claims 8, 37, and 63-66 are canceled hereby. The amendments to the claims are supported by the specification and original claims. No new matter is incorporated by this Amendment.

The Examiner's previous indication of allowability for claims 8-14, 37-43, and 63-69 has been withdrawn. These claims now have been rejected under 35 U.S.C. § 103(a) as purportably unpatentable over the previously cited Kim patent in view of U. S. Patent No. 6,317,242 to Ozeki et al. (Ozeki). The rejection is traversed.

Independent claims 9 and 38 first will be considered together. The Office Action, at page 3, lines 14-16, demonstrates an incorrect understanding of the alleged primary reference, Kim. This passage in the Action states "Regarding claims 9 and 38, Kim further teaches that the light guide is an optical fiber with a ferrule, the bench has a larger V-groove for supporting the ferrule on a lower step and a smaller V-groove for sustaining the fiber (column 6, lines 26-67)." The assertion is incorrect because nowhere in column 6, lines 26-67 does Kim suggest a step structure of a larger V-groove for a ferrule and a smaller V-groove for a fiber. Kim does, at column 6, lines 26-67 disclose V-grooves in a silicon optical bench (SiOB) and how such enable a factory worker to make manual alignment of optical fibers to a PD or an LD. Beyond this general teaching, Kim teaches nothing further towards Applicants' relatively larger and small V-grooves as described in claims 9 and 38.

Thus, the assertion that "Kim further teaches that the light guide is an optical fiber with a ferrule, the bench has a larger V-groove for supporting the ferrule on a lower step and a smaller V-groove for sustaining the fiber (column 6, lines 26-67)." is erroneous. The Ozeki patent does not remedy this deficiency of Kim with respect to amended claims 9 and 38. Therefore, the rejection as to these claims must fail.

Applicants' arrangements of claims 9 and 38 with a bench having a smaller V-groove for sustaining a fiber and a larger V-groove for supporting a ferrule have distinct advantages. First, the fiber is not damaged in the process of mounting the transmitting device and the receiving device on the circuit board. And second, individual examination of only the transmitting device or only the receiving device is possible, and thus the fabrication processes are simplified. Neither Kim nor Ozeki, whether considered alone or in combination, teaches or suggest Applicants' arrangements of claims 9 and 38, or the advantages deriving therefrom. Hence the rejection is overcome with respect to these claims, and their dependent claims, for at least these reasons.

Next, all of independent claims 8, 38, and 67 will be considered together. The Office Action has asserted that Ozeki teaches a daughter board having electric elements both on the top surface and the bottom surface, and optoelectronic device chips on an end of the top surface. The Action continues in asserting that Kim combined with Ozeki would have led those of ordinary skill to the present invention. This conclusion respectfully is submitted as erroneous.

Fig. 1 of Ozeki shows a small light emitting/receiving circuit 42 containing an LD unit 42a, a PD unit 42b and a repeater 42c. In Fig.1 of Ozeki, the length of the emitting/receiving circuit 42 is given as 7mm in actual measurement, and the length of the daughter board is taught as 65 mm. Optoelectronic devices only occupy about 1/9 of the length of the daughter board. The bottom of the daughter board has a 65mm length in Ozeki's Fig. 1. Two 12mm long electronic circuits 41 are mounted upon the 65mm long bottom. A 41mm space on the bottom

does not have electric circuits 41. An 18mm long space is vacant below the emitting/receiving circuit 42. Applicants regard this 18mm vacant space below the optoelectronic devices 42a/42b/42c as a disadvantage hindering the miniaturization of Ozeki's device. Size-reduction is one of Applicants' objectives. In pursuit of the objective, Applicants present the embodiment of Fig. 5 showing optoelectronic bench 21 on the top of the circuit board and an electric element 25 just below the bench 21, on the bottom. Arrangement of devices on both sides of the bench reduces the area and the volume of a resulting optical module. Indeed, Applicants' description at page 1, lines 6-7 states, "This invention aims at a small-sized, inexpensive . . . ". Claims 9, 38, and 67 recite electronic elements on the bottom "just below" the optical bench carrying the optoelectronic devices. Ozeki does not satisfy this condition of the pending claims. Thus the combination of Kim and Ozeki does not teach or suggest Applicants' claimed invention. Claims 9, 38, and 67, and their respective dependent claims, therefore remain patentable over the asserted combination of Kim and Ozeki for at least these reasons.

Applicants respectfully submit that this Amendment and the above remarks obviate the new rejection made in this case, thereby placing the application in condition for immediate allowance. Allowance of this application is earnestly solicited.

If any fees under 37 C.F.R. §§1.16 or 1.17 are due in connection with this filing, please charge the fees to Deposit Account No. 02-4300; Order No. 033035.086.

Respectfully submitted,
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